NEW DRUG UPDATE

Drug Name:	**beclomethasone dipropionate**
Trade Name (Manufacturer):	**Qnasl™** (Teva Respiratory)
Form:	Nasal HFA aerosol (with built-in spray/dose counter)
Strength:	8.7 g canister containing 120 actuations (80 mcg/actuation)
FDA Approval:	March 23, 2012
Market Availability:	April 2012
FDA Approval Classification:	Standard review
Classification:	Specific Therapeutic Class (HIC3): Nasal Anti-Inflammatory Steroids (Q7P)

***Indication*:**[1] Beclomethasone (Qnasl), a non-aqueous HFA nasal corticosteroid, is indicated for the treatment of nasal symptoms associated with seasonal and perennial allergic rhinitis in adults and adolescents 12 years of age and older.

***Contraindications/Warnings*:** Beclomethasone is contraindicated in patients with a history of hypersensitivity to beclomethasone dipropionate and/or any other beclomethasone nasal aerosol ingredients.

Warnings include nasal discomfort, epistaxis, nasal ulceration, *Candida albicans* infection, nasal septal perforation, and impaired wound healing. Monitor patients periodically for signs of adverse effects on the nasal mucosa. Avoid use in patients with recent nasal ulcers, nasal surgery, or nasal trauma.

Patients can develop glaucoma or posterior subcapsular cataracts. Monitor patients closely with a change in vision or with a history of increased intraocular pressure, glaucoma, and/or cataracts.

Hypersensitivity, rash, and urticaria may occur after administration of beclomethasone.

Due to potential immune system suppression with corticosteroids, there is potential worsening of existing tuberculosis; fungal, bacterial, viral, or parasitic infections; or ocular herpes simplex. Also more serious or even fatal course of chickenpox or measles can occur in susceptible patients. Therefore caution is warranted.

Hypercorticism and adrenal suppression due to hypothalamic-pituitary-adrenal axis effect, can occur with very higher doses or at the recommended doses in susceptible individuals. If such changes occur, beclomethasone should be slowly discontinued.

Corticosteroids have the potential to reduce growth velocity in pediatric patients. Monitor growth routinely in pediatrics receiving beclomethasone.

***Drug Interactions*:** No drug interaction studies have been performed with beclomethasone.

***Common Adverse Effects*:** The most common adverse reactions (≥ one percent and greater than placebo) include nasal discomfort (beclomethasone 5.2 percent; placebo 4.8 percent),

epistaxis (beclomethasone 1.9 percent; placebo 1.2 percent), and headache (beclomethasone 2.3 percent; placebo 1.6 percent). Cough was not reported as an adverse event.

Less than two percent of patients in clinical trials discontinued treatment due to adverse reactions. The rate of withdrawal among patients who received beclomethasone was either similar or lower than the rate among patients on placebo.

***Special Populations*:**

Pediatrics: The safety and efficacy of beclomethasone in patients less than 12 years of age have not been established.

Pregnancy: Pregnancy Category C.

Geriatrics: Clinical trials of beclomethasone did not include sufficient numbers of patients aged 65 years and older to determine whether they responded differently than younger subjects.

Renal Impairment: There are no recommendations for this patient population.

Hepatic Impairment: There are no recommendations for this patient population.

***Dosages*:** The recommended dose of beclomethasone is 320 mcg per day administered as two nasal aerosol sprays in each nostril once daily (maximum total daily dose of four nasal aerosol sprays per day). Each actuation delivers 80 mcg of beclomethasone dipropionate. It is formulated as an HFA solution with no need for shaking.

***Clinical Trials*:** *A literature search was performed using "beclomethasone dipropionate nasal aerosol". Placebo-controlled trials were included in the absence of comparative trials.*

The efficacy and safety of beclomethasone dipropionate (Qnasl) has been demonstrated in the Phase 3 randomized, double-blind, placebo-controlled, multicenter studies below. Patients were randomized to beclomethasone 320 mcg once daily administered as two sprays per nostril or to placebo.

Assessment of efficacy was based on the total nasal symptom score (TNSS). TNSS is calculated as the sum of the patients' scoring of the four individual nasal symptoms (rhinorrhea, sneezing, nasal congestion, and nasal itching) on a 0 to 3 categorical severity scale (0=absent, 1=mild, 2=moderate, 3=severe) as reflective (rTNSS) or instantaneous (iTNSS). rTNSS required the patients to record symptom severity over the previous 12 hours; iTNSS required the patients to record symptom severity over the previous ten minutes. Morning and evening TNSS scores were averaged over the treatment period and the difference from placebo in the change from baseline rTNSS was the primary efficacy endpoint. The morning iTNSS reflects the TNSS at the end of the 24-hour dosing interval and is an indication of whether the effect was maintained over the 24-hour dosing interval.

The two-week efficacy trial was in 338 patients with seasonal allergic rhinitis (SAR).[2] The six-week efficacy trial was in 466 patients with perennial allergic rhinitis (PAR).[3] Both studies resulted in statistically significant greater decreases from baseline in the rTNSS and morning iTNSS than placebo ($p<0.001$). In the SAR trial the mean rTNSS improvement from baseline was -2 versus -1 for beclomethasone versus placebo. Beclomethasone treatment difference in mean rTNSS was -0.91 (95% -0.5, -1.3); $p<0.001$. The mean iTNSS improvement from baseline was -1.7 versus -0.8 for beclomethasone versus placebo. In the PAR trial the mean rTNSS

improvement from baseline was -2.5 versus -1.6 for beclomethasone versus placebo. Beclomethasone treatment difference in mean rTNSS was -0.84 (95% -1.2, -0.5); p<0.001. The mean iTNSS improvement from baseline was -2.1 versus -1.4 for beclomethasone versus placebo. Beclomethasone was well tolerated, with comparable safety to placebo.

***Other Drugs Used for Condition*:**[4,5] Available intranasal classes are intranasal corticosteroids, intranasal antihistamines, and intranasal ipratropium. Intranasal corticosteroids include beclomethasone diproprionate monohydrate (Beconase AQ®), budesonide (Rhinocort Aqua®), ciclesonide (Omnaris™), flunisolide, fluticasone furoate (Veramyst®, Flonase®), mometasone (Nasonex®), and triamcinolone (Nasacort AQ®).

***Place in Therapy*:** Intranasal corticosteroids are effective at controlling the spectrum of allergic rhinitis symptoms. Beclomethasone dipropionate (Qnasl) offers a non-aqueous "dry" solution HFA nasal steroid which is dosed once daily with a built-in spray/dose counter. Beclomethasone dipropionate (Qnasl) is only indicated in ages 12 years and older. There are a variety of other brand and generic intranasal steroids available for younger ages. Beclomethasone diproprionate monohydrate (Beconase AQ) is an aqueous "wet" beclomethasone intranasal spray.

***Suggested Utilization Management*:**

Anticipated Therapeutic Class Review (TCR) Placement	Intranasal Rhinitis Agents
Clinical Edit	Prior authorization will be required if it is determined that this product will be non-preferred
Quantity Limit	One canister=120 sprays/30 days
Duration of Approval	1 year
Drug to Disease Hard Edit	None
Retro-DUR	Yes
Provider Profiling	None

References

[1] Qnasl [package insert]. Horsham, PA; Teva Respiratory; March 2012.
[2] Qnasl [package insert]. Horsham, PA; Teva Respiratory; March 2012.
[3] Meltzer E, Jacobs, R, Laforce C, et al. Safety and efficacy of once-daily treatment with beclomethasone dipropionate nasal aerosol in subjects with perennial allergic rhinitis. Allergy Asthma Proc. 2012 Apr 2. [Epub ahead of print].
[4] DRUGDEX® System [Internet database]. Greenwood, CO: Thompson Micromedex. Updated periodically.
[5] Available at: www.clinicalpharmacology.com. Accessed May 15, 2012.